

We claim:

- 1            1. A method of processing banking transactions comprising:  
2                receiving an electronic cash presentment (ECP) file, the ECP file  
3                containing first records representing paper-based banking transactions;  
4                for each of the first records, assigning a unique first item  
5                sequence number to each respective first record;  
6                receiving the paper-based banking transactions;  
7                generating second records representing the paper-based banking  
8                transactions;  
9                for each of the second records, assigning a unique second item  
10              sequence number to each respective second record;  
11              correlating the first and second records; and  
12              discarding the second item sequence numbers such that the  
13              second records are indexable according to the first item sequence number.
  
- 1            2. The method according to claim 1, further comprising  
2                performing financial processing with respect to each of the first records.
  
- 1            3. The method according to claim 2, wherein the financial  
2                processing comprises posting the banking transaction.
  
- 1            4. The method according to claim 1, wherein the step of  
2                correlating the first and second records further comprises performing a  
3                proofing process.

1               5. The method according to claim 4, further comprising, prior to  
2 the proofing process, sorting the ECP file according to a key to generate an  
3 index file, wherein the order of the second records is thereby irrelevant in the  
4 proofing process.

1               6. The method according to claim 5, wherein the key is selected  
2 from the group consisting an account number, a transit number, amount, check  
3 number, posting date, the first item sequence number and a payor bank  
4 number, each being associated with the paper-based banking transaction.

1               7. The method according to claim 1, wherein the step of  
2 generating the second records further comprises generating digital images of  
3 the paper-based banking transactions.

1               8. The method according to claim 7, further comprising storing  
2 the digital images in an archive.

1               9. The method according to claim 1, further comprising  
2 generating first digital images of paper-based banking transactions that were  
3 not represented in the ECP file.

1               10. The method according to claim 9, further comprising:  
2                   generating second digital images of the paper-based banking  
3                   transactions that were represented in the ECP file; and  
4                   storing the first and the second digital images in an archive.

1           11. A method of processing banking transactions comprising:  
2           receiving an enhanced electronic cash presentment (ECP) file,  
3           the enhanced ECP file containing first records representing paper-based  
4           banking transactions, the first records containing both data records associated  
5           with the paper-based banking transactions and digital images of the paper-  
6           based banking transactions; and  
7           performing financial processing with respect to each of the first  
8           records.

1           12. The method of claim 11, further comprising:  
2           a) generating the digital images of the paper-based banking  
3           transactions;  
4           b) generating the data records associated with the paper-based  
5           banking transactions;  
6           c) combining the digital images and the data records into the  
7           enhanced ECP file; and  
8           d) transmitting the enhanced ECP file;  
9           wherein steps a), b), c) and d) are performed by a first  
10          institution, wherein the receiving step is performed by a second institution.

1           13. The method of claim 12, wherein the paper-based banking  
2           transactions represented by the first records relate to accounts held at the  
3           second institution.

1           14. The method according to claim 12, wherein both the first  
2       and the second institutions are banks.

1           15. The method according to claim 12, further comprising  
2       sending the paper-based banking transactions from the first institution to the  
3       second institution.

1           16. The method according to claim 12, further comprising  
2       retaining the paper-based banking transactions at the first institution.

1           17. The method according to claim 11, wherein the digital  
2       images are first digital images, the method further comprising storing the first  
3       digital images in an archive.

1           18. The method according to claim 17, further comprising:  
2           generating second digital images of paper-based banking  
3       transactions that were not represented in the ECP file; and  
4           storing the second digital images in the archive.

1           19. A method by which a first institution processes banking  
2       transactions including paper-based banking transactions, the method  
3       comprising:  
4           generating digital images of the paper-based banking  
5       transactions;  
6           generating data records associated with the paper-based banking  
7       transactions;

1                   20. The method according to claim 19, wherein both the first  
2                  and second institutions are banks.

1                   21. A method of handling paper-based banking transactions  
2                  between a first bank and a second bank, the paper-based banking transactions  
3                  being presented to the first bank and the paper-based banking transactions  
4                  being related to accounts at the second bank, the method comprising:  
5                  generating, by the first bank, an electronic cash presentment  
6                  (ECP) file, the ECP file containing first records representing the paper-based  
7                  banking transactions;  
8                  transmitting the ECP file to the second bank;  
9                  generating, by the first bank, first digital images of the paper-  
10                 based banking transactions;  
11                 storing, by the first bank, the first digital images in an archive;  
12                 and  
13                 retrieving, by the second bank, at least one of the first digital  
14                 images from the archive.

1                   22. The method of claim 21, wherein the archive is located  
2                  within the first bank.

1                   23. The method of claim 21, wherein the archive is located  
2                   remotely with respect to both the first and the second banks.

1                   24. The method of claim 21, further comprising storing the first  
2                   records in the archive.

1                   25. The method of claim 21, wherein the archive is a first  
2                   archive remote from the first bank, the method further comprising storing the  
3                   retrieved first digital images in a second archive within the second bank.

1                   26. The method according to claim 25, further comprising:  
2                   generating second digital images of paper-based banking  
3                   transactions that were not represented in the ECP file; and  
4                   storing the second digital images in the second archive.

1                   27. A method of handling paper-based banking transactions  
2                   between a first bank and a second bank, the paper-based banking transactions  
3                   being presented to the first bank and the paper-based banking transactions  
4                   being related to accounts at the second bank, the method comprising:  
5                   generating, by the first bank, an electronic cash presentment  
6                   (ECP) file, the ECP file containing first records representing the paper-based  
7                   banking transactions;  
8                   transmitting the ECP file to the second bank;  
9                   generating, by the first bank, first digital images of the paper-  
10                  based banking transactions;  
11                  storing, by the first bank, the first digital images in an archive;

12                   generating, by the first bank, pointers to the first digital images  
13                   in the archive; and  
14                   transmitting the pointers to the second bank.

1                   28. The method according to claim 27, further comprising  
2                   retrieving, by the second bank, at least one of the first digital images from the  
3                   archive using at least one of the pointers.

1                   29. The method according to claim 27, further comprising  
2                   storing, by the second bank, the pointers.

1                   30. The method according to claim 27, further comprising:  
2                   generating second digital images of paper-based banking  
3                   transactions that were not represented in the ECP file; and  
4                   storing the second digital images in a second archive.

1                   31. The method according to claim 30, wherein the second  
2                   archive is the first archive.

1                   32. The method according to claim 30, wherein the second  
2                   archive is located within the second bank.

1                   33. The method according to claim 30, wherein the first is  
2                   remote to both the first and second banks.

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1           34. The method according to claim 30, wherein the pointers are  
2       first pointers, the method further comprising:

3                   generating, by the second bank, second pointers to the second  
4       digital images stored in the second archive.

1           35. The method according to claim 34, further comprising:  
2                   storing, by the second bank, the first pointers and the second  
3       pointers.

1           36. A system for processing banking transactions comprising:  
2                   a first processor, the first processor receiving an electronic cash  
3       presentment (ECP) file, the ECP file containing first records representing  
4       paper-based banking transactions, the first processor assigning a unique first  
5       item sequence number to each respective first record;

6                   a second processor, the second processor receiving the paper-  
7       based banking transactions and generating second records representing the  
8       paper-based banking transactions, the second processor assigning a unique  
9       second item sequence number to each respective second record; and

10                  a third processor correlating the first and second records and  
11       discarding the second item sequence numbers such that the second records are  
12       indexable according to the first item sequence number.

1           37. The system according to claim 36, wherein the first  
2       processor further performs financial processing with respect to each of the  
3       first records.

1           38. The system according to claim 37, further comprising an  
2       account system coupled to the first processor, wherein the financial processing  
3       by the first processor comprises posting the banking transaction in the account  
4       system.

1           39. The system according to claim 36, wherein the correlating  
2       by the third processor further comprises the third processor performing a  
3       proofing process.

1           40. The system according to claim 39, wherein, prior to the  
2       proofing process, the third processor sorts the ECP file according to a key to  
3       generate an index file, wherein the order of the second records is thereby  
4       irrelevant in the proofing process by the third processor.

1           41. The system according to claim 40, wherein the key is  
2       selected from the group consisting an account number, a transit number,  
3       amount, check number, posting date, the first item sequence number and a  
4       payor bank number, each being associated with the paper-based banking  
5       transaction.

1           42. The system according to claim 36, further comprising a  
2       scanner coupled to the second processor, the scanner generating digital images  
3       of the paper-based banking transactions.

1           43. The system according to claim 42, further comprising an  
2       archive coupled to the second processor, the archive storing the digital images.

1                   44. The system according to claim 36, further comprising a  
2 scanner, the scanner generating first digital images of paper-based banking  
3 transactions that were not represented in the ECP file.

1               45. The system according to claim 44, wherein the scanner is a  
2 first scanner, the system further comprising:  
3                     a second scanner coupled to the first processor, the second  
4 scanner generating second digital images of the paper-based banking  
5 transactions that were represented in the ECP file; and  
6                     an archive coupled to the first processor, the archive storing the  
7 first and the second digital images.

1                   46. A system of processing banking transactions comprising:  
2                   an electronic interface, the electronic interface receiving an  
3                   enhanced electronic cash presentment (ECP) file, the enhanced ECP file  
4                   containing first records representing paper-based banking transactions, the  
5                   first records containing both data records associated with the paper-based  
6                   banking transactions and digital images of the paper-based banking  
7                   transactions; and  
8                   a first processor coupled to the electronic interface, the first  
9                   processor performing financial processing with respect to each of the first  
10                  records.

1 47. The system of claim 46, further comprising:

2                   a scanner, the scanner generating the digital images of the paper-  
3                   based banking transactions;

4                   a second processor coupled to the scanner, the second processor  
5                   generating the data records associated with the paper-based banking  
6                   transactions, the second processor combining the digital images and the data  
7                   records into the enhanced ECP file, and the second processor transmitting the  
8                   enhanced ECP file to the electronic interface

9                   wherein the scanner and the second processor are operated by a  
10                  first institution, and wherein the electronic interface and the first processor are  
11                  maintained by a second institution.

1                   48. The system of claim 47, wherein the paper-based banking  
2                   transactions represented by the first records relate to accounts held at the  
3                   second institution.

1                   49. The system according to claim 47, wherein both the first  
2                   and the second institutions are banks.

1                   50. The system according to claim 46, wherein the digital  
2                   images are first digital images, the system further comprising an archive, the  
3                   archive storing the first digital images.

1                   51. The system according to claim 50, wherein the scanner is a  
2                   first scanner, the system further comprising:

3                   a second scanner, the second scanner generating second digital  
4    images of paper-based banking transactions that were not represented in the  
5    ECP file, wherein the second digital images are stored in the archive.

1                 52. A system of handling paper-based banking transactions  
2    between a first bank and a second bank, the paper-based banking transactions  
3    being presented to the first bank and the paper-based banking transactions  
4    being related to accounts at the second bank, the system comprising:

5                 a first processor at the first bank, the first processor generating  
6    an electronic cash presentment (ECP) file, the ECP file containing first records  
7    representing the paper-based banking transactions;

8                 a communication link coupling the first bank and the second  
9    bank, the first processor transmitting the ECP file to the second bank over the  
10   communications link;

11                a scanner at the first bank, the scanner generating first digital  
12    images of the paper-based banking transactions; and

13                an archive, the archive storing the first digital images, wherein  
14    the second bank retrieves, over the communication link, at least one of the  
15    first digital images from the archive.

1                 53. The system of claim 52, wherein the archive is located  
2    within the first bank.

1                 54. The system of claim 52, wherein the archive is located  
2    remotely with respect to both the first and the second banks.

1               55. The system of claim 52, wherein the archive stores the first  
2 records.

1               56. The system of claim 52, wherein the archive is a first  
2 archive remote from the first bank, the system further comprising a second  
3 archive within the second bank, the second archive storing the retrieved first  
4 digital images.

1               57. The system according to claim 56, wherein the scanner is  
2 first scanner, the system further comprising a second scanner generating  
3 second digital images of paper-based banking transactions that were not  
4 represented in the ECP file, wherein the second digital images are stored in the  
5 second electronic archive.

1               58. A system of handling paper-based banking transactions  
2 between a first bank and a second bank, the paper-based banking transactions  
3 being presented to the first bank and the paper-based banking transactions  
4 being related to accounts at the second bank, the system comprising:

5               a first processor at the first bank, the first processor generating  
6 an electronic cash presentment (ECP) file, the ECP file containing first records  
7 representing the paper-based banking transactions, the first processor  
8 transmitting the ECP file to the second bank;

9               a scanner coupled to the first processor, the generating first  
10 digital images of the paper-based banking transactions;

11                   an archive at the first bank, the archive storing the first digital  
12                   images, wherein the first processor generates pointers to the first digital  
13                   images in the archive and transmits the pointers to the second bank.

1                   59. The system according to claim 58, further comprising a  
2                   second processor at the second bank, the second processor retrieving at least  
3                   one of the first digital images from the archive using at least one of the  
4                   pointers.

1                   60. The system according to claim 58, wherein the archive is a  
2                   first archive, the system further comprising a second archive at the second  
3                   bank, the second archive storing the pointers.

1                   61. The system according to claim 58, wherein the scanner is a  
2                   first scanner and where in the archive is a first archive, the system further  
3                   comprising:

4                   a second scanner at the second bank, the second scanner  
5                   generating second digital images of paper-based banking transactions that  
6                   were not represented in the ECP file; and

7                   a second archive, the second archive storing the second digital  
8                   images.

1                   62. The system according to claim 61, wherein the second  
2                   archive is the first archive.

1           63. The system according to claim 61, wherein the second  
2       archive is located within the second bank.

1           64. The system according to claim 61, wherein the first archive  
2       is remote to both the first and second banks.

1           65. The system according to claim 61, wherein the pointers are  
2       first pointers, the system further comprising:  
3                a second processor at the second bank, the second processor  
4       generating second pointers to the second digital images stored in the second  
5       archive.

1           66. The system according to claim 65, wherein the first and  
2       second pointers are stored in the second archive.